Year	GIB Event		In-Hospital Mortality with GIB	In-Hospital Mortality w/o GIB
	N	Percent (%)	Percent (%) *	Percent (%)
1998	937	1.0	6.9%	0.9%
1999	1096	1.1	7.9%	1.0%
2000	1350	1.1	8.9%	1.0%
2001	1569	1.1	7.3%	1.1%
2002	1612	1.1	8.2%	1.1%
2003	1631	1.1	7.5%	1.1%
2004	1543	1.0	7.5%	1.0%
2005	1438	0.9	7.4%	0.9%
2006	1505	0.9	7.2%	0.8%

* P value was < 0.000 for all

In univariate analyses, GIB was associated with higher in-hospital mortality, OR 8.27, 95% CI 7.69-8.95, female gender, OR 1.53, 95% CI 1.48 -1.59 and age >=65 y, OR 2.65, 95% CI 2.56-2.75, all p<0.000.

Conclusions: The rate of GIB associated with PCI in the US remains unchanged in the period from 1998-2006. GIB after PCI is associated with significantly higher mortality, increased length of stay, increased cost of hospitalization, and is more prevalent in female and older patients.

POSTER

TCT-161

Contemporary Clinical Characteristics, Treatment, and Outcomes of Patients Presenting with Coronary Stent Thrombosis

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Background: The contemporary treatments and outcomes for U.S. patients (pts) who present with angiographic (definite) stent thrombosis (ST) resulting in acute coronary syndromes are not well described.

Methods: 165 consecutive episodes of angiographically confirmed ST in 153 pts presenting between Jan 2005 - Feb 2010 at 5 academic medical centers were retrospectively

Results: Table 1 shows the clinical and procedural characteristics of the cohort. The majority of pts had very late (> 1 year) ST (50.3%). Procedural success was 88.1%. In-hospital stroke occurred in 1 patient (0.6%), CABG in 10 pts (6.1%) and all-cause mortality in 8 pts (5.3%). Using the social security death index and by chart review, data on mortality could be ascertained in 151 of 153 pts (98.7%). The median duration of follow up was 574.5 days, (1st and 3rd quartile 272.5, 1123.5 days). There were 24 deaths in the period, of which 16 were after hospital discharge. There were 119 pts with at least 1 year follow up. Of these, there were 19 deaths at 1 year, if in-hospital deaths were included (16.0%); and 11 deaths (9.2%) if in-hospital deaths were excluded.

On univariate analysis, female gender (p=0.03), diabetes mellitus (DM) (p=0.028), bifurcation disease (p<0.0001), left ventricular ejection fraction <40% (p=0.0015) and cardiogenic shock (p=0.011) at the time of presentation were associated with increased risk of mortality. After multivariate analysis, only DM (p=0.047) and bifurcation disease (p=0.027) remained significant predictors of in-hospital death.

Table 1. Clinical and procedural characteristics of patients presenting with coronary artery stent thromboses	
Median age (years) (1st quartile, 3rd quartile)	59.4 (50.9, 69.9)
Median Length of stay (days) (1st quartile, 3rd quartile)	4.0 (2.8, 9.0)
Male gender	84.2 %
Diabetes mellitus	38.3%
Hypertension	75.2 %
Dialysis	2.4%
History of congestive heart failure	18.8%
Prior Myocardial infarction	68.5%
Prior coronary artery bypass surgery	13.9%
Median left ventricular EF (%) (1st quartile, 3rd quartile)	49.5 (36.3, 55.0)
Tobacco use (current and prior)	68.9%
Median CKMB peak (1st quartile, 3rd quartile)	75.4 (25.4, 233.0)
On aspirin prior to event	71.5 %
On thienopyridine prior to event	44.5 %
On dual antiplatelet prior to event	41.2%
On at least one prior to event	33.3%
On no antiplatelet agent prior to event	22.4%
On statin prior to event	67.9
Aspirin at discharge	99.4 %
Thienopyridine at discharge	96.7 %
Statin at discharge	92.9%
Proton-pump inhibitor at discharge	33.1%
Presentation •ST-elevation MI •Non ST-elevation MI •Unstable angina •Ventricular fibrillation/tachycardia or sudden cardiac death •Other	 63.4% 23.8% 9.8% 1.8% 1.2%
Cardiogenic shock	18.3%
Vessel (including branches) •Left anterior descending artery •Circumflex artery •Right coronary artery •Vein graft	 47.9% 18.9% 24.2 7.3%
Thrombosed stent •Drug-eluting sent •Bare metal stent •Unknown	 50.3% 24.8% 24.8%
Thrombosis at bifurcation	13.2%
Thrombolytic used •Intracoronary •Intravenous	 3% 1%
Thrombectomy device used	51.5%
Stent used to treat thrombosis •Drug-eluting stent implanted •Bare metal stent implanted	61.4 % 71.1 % 28.9%
Balloon angioplasty without stenting	28.8 %
Glycoprotein IIb/IIIa antagonist used	81.5%
Antithrombotic •Heparin •Low molecular weight heparin •Bivalirudin	 76.1% 1.2% 18.6%
Intravascular ultrasound performed	23.5%
Procedural success	88.1 %

Conclusions: Fully half of pts presenting with angiographically confirmed stent thrombosis had very late presentations (>1 year after stent implant). Hospital mortality is lower than previously reported. DM and bifurcation disease were independently associated with in-hospital mortality.

TCT-162

Spontaneous Coronary Artery Dissection: Risk Factors, Clinical Course, and Late Outcomes

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Background: Predisposing risk factors, clinical course, and prognosis of spontaneous coronary artery dissection (SCAD) are poorly defined.

Method: We reviewed medical records and coronary angiograms of patients admitted to our institution with the diagnosis of SCAD from July 1999 to March 2010. SCAD was defined by angiographic or intravascular ultrasonographic (IVUS) evidence demonstrating separation of the media with or without an associated intimal tear. The diagnosis of SCAD was confirmed by agreement of two blinded board-certified interventional cardiologists who reviewed all images separately.

Results: We identified a total of 24 patients with definite SCAD. Demographics and past medical history of the patients included: mean age 44.9±10.5 years, female gender in all (100%), current smoking in 8 (33.3 %), diabetes in 1 (4.2%), no prior cardiac history (0%), peripartum in 7 (29.2%), and use of birth control pills in 2 (8.3%). The all patients presented with ACS, 15 (62.5%) had ST-segment elevation on initial electrocardiogram. Strenuous physical activity and emotional stress preceded symptom onset in 10 (41.2%) and 6 (25.0%) patients, respectively. All patients underwent emergent or urgent cardiac catheterizations, which revealed SCAD of the left anterior descending artery in 16 patients (66.7%), left circumflex artery in 9 (37.5%) and right coronary artery in 4 (16.7%). Five (20.8%) patients had SCAD in two separate epicardial arteries simultaneously. Three (12.5%) patients with ambiguous angiographic findings were evaluated by IVUS, confirming the diagnosis in all three. Four patients (16.7%) underwent coronary stenting and 5 (20.8%) required urgent bypass surgery. Coronary stenting in 2 patients was complicated by retrograde extension of coronary dissection. During mean follow-up of 37.2±37.2 months, there were no deaths, recurrence of SCAD in 1 patient (4.2%), recurrent myocardial infarction in 3 (12.5%) and congestive heart failure in 1 (4.2%). None required late coronary revascularization. Repeat coronary angiographies were performed in 11 (45.8%) patients during follow-up period and the all were found to have healed SCAD, including those who had undergone bypass surgery.

Conclusions: To the best of our knowledge, this is the largest single institute case series of SCAD. Patients with SCAD are characterized by an absence of coronary risk factors, an association with physical and emotional stress, high incidence of infarction, a high rate of vascular healing without residual stenosis, and generally a good long-term prognosis.

TCT-163

N-Acetylcysteine does not Lower the Incidence of In-hospital Death or Peri-procedural Myocardial Infarction After Percutaneous Coronary Revascularization

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Background: The use of N-Acetylcysteine (NAC) has been associated with lower rates of contrast induced nephropathy (CIN) after percutaneous coronary intervention (PCI), and decreased in-hospital death in patients with acute myocardial infarction. NAC may improve coronary microvascular function and protect against reperfusion injury. The aim of this study was to determine if NAC reduced the maximal cardiac biomarker rise after and in-hospital death rates in patients undergoing PCI.

Methods: This is a single-center cohort study of 5034 patients, 3162 patients without a MI and 1872 with, who underwent PCI at Mayo Clinic. Propensity scores were created to adjust for selection bias given the differences in baseline risk factors. Logistic regression was used to model the risk of in-hospital death.

Results: Use of NAC in patients without MI resulted in a 20% increase in post-PCI peak troponin levels (p=0.14), while the use of NAC in patients with MI resulted in a 5.7% decrease in post-PCI peak troponin (p=0.75) when compared to patients that did not receive NAC. Select data for patients with a MI is below:

	No NAC	NAC
1 year mortality	9.1%	17.7%*
Repeat MI	4.6%	9.6%*

*P<0.001

Of the patients undergoing PCI without MI who did not receive NAC prior to PCI, there was a 3.4% mortality at 1 year compared to 10.4% for patients who received NAC (p<0.001). The adjusted odds ratio (OR) for in-hospital death in patients who received NAC without MI was 1.27 (0.37-4.35), and 1.13 (0.53-2.42) for patients who had a MI and received NAC.

Conclusions: NAC did not alter the peak cardiac biomarkers after PCI. In-hospital deaths of patients undergoing PCI did not decrease with NAC administration. This study is limited by the non-randomized nature of the study and that there may be baseline risk factor difference that could not be adjusted. This study does not support the hypothesis that NAC can reduce myocardial infarction after PCI or reduce mortality.